

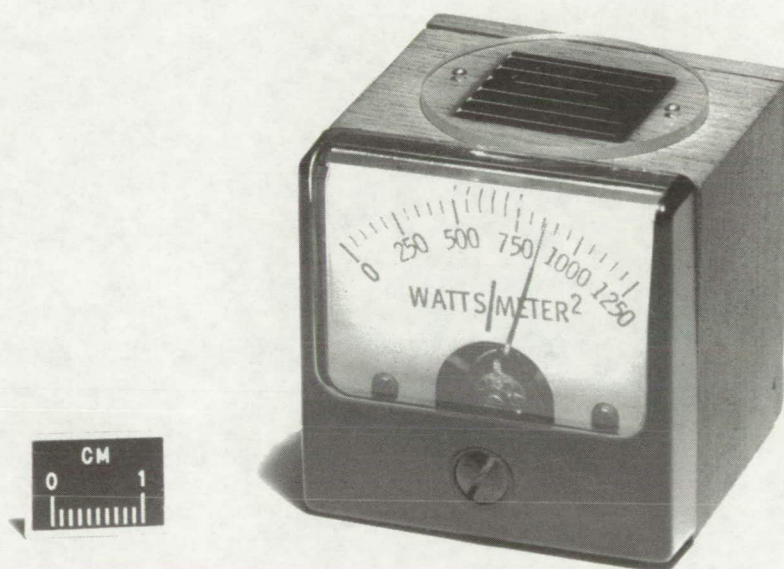
NASA TECH BRIEF

Lewis Research Center



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Inexpensive Pocket-Sized Solar Energy Meter (Insolometer)



An inexpensive pocket-sized solar energy meter (insolometer) directly measures the amount of energy available in the sunlight falling on the earth over the range from 1 to 1250 watts/meter². It consists of a single silicon solar cell wired in series with a miniature ammeter. The entire device can be packaged in a 4.4 cm (1.75 in) cube.

This insolometer operates on the principle that the short circuit current from a solar cell is directly proportional to the amount of light that shines on the cell. This short circuit current is measured with a small ammeter, and the ammeter is calibrated as watts/meter² against readings from a "standard solar cell." Thereafter, the device provides a direct measure of the solar energy shining on the cell.

As the cost of fossil-fueled energy increases, the use of solar energy as an alternative becomes more attractive. In order to design solar energy systems of the proper size, it is necessary to know the amount of solar energy available at the site. This pocket insolometer is ideally suited to making on-site measurements of the solar energy available.

Note:

No additional documentation is available. Specific technical questions, however, may be directed to:

Technology Utilization Officer
Lewis Research Center
21000 Brookpark Road
Cleveland, Ohio 44135
Reference: B75-10283

Patent Status:

NASA has decided not to apply for a patent.

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(LEW-12598)

Category 01,02